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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,319	02/12/2004	Jae-Young Jung	46295	4096

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EXAMINER

MULL, FRED H

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,319

Applicant(s)


JUNG ET AL.

Examiner

Fred H. Mull

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Observations

1. For simplicity, all citations to the specification will refer to the paragraph number used in the application's Patent Application Publication, US 2004/0160360 A1.

Specification

2. The disclosure is objected to because of the following informalities:

¶ 19 defines (x_k, y_k, z_k) as the satellite position. ¶ 20 states that (x_p, y_p, z_p) are the components of the satellite velocity. However, if that were true, from eq. 1 in ¶ 19, (x_k, y_k, z_k) would have the dimensions of velocity, and not those of position. Something in ¶ 19-20 appears to be amiss.

Appropriate correction is required.

Claim Objections

3. Claim 1 is objected to because of the following informalities:

In line 6, "satellite" should be --satellite--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

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which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The term “pseudo velocity” is not clearly defined. In ¶ 40, lines 19-24 it appears to be defined as the relative velocity between the satellite and the mobile station (MS). However, in ¶ 92, eq. 20(a) (and related eq. 19), it appears that the velocity of MS is not taken into account, and that the “pseudo velocity” is the velocity of the satellite in ECEF coordinates, where certain time delays are determined based on the position of the MS. In order to make and/or use the invention, one of ordinary skill in the art would require a clear definition of the term “pseudo velocity”.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nelson.

Nelson discloses a satellite data collector for collecting satellite orbital information and pseudo range of more than three consecutive times from a plurality of satellites; a satellite velocity calculator for calculating velocity of satellites using the satellite orbital information; a pseudo velocity calculator for calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites; and a satellite acquisition information

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calculator for calculating a code phase using the pseudo range, calculating a Doppler shift using the pseudo velocity (col. 5, line 1 to col. 6, line 18; col. 10, lines 32-64).

6. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Issler.

Issler discloses a satellite data collector for collecting satellite orbital information and pseudo range of more than three consecutive times from a plurality of satellites; a satellite velocity calculator for calculating velocity of satellites using the satellite orbital information; a pseudo velocity calculator for calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites; and a satellite acquisition information calculator for calculating a code phase using the pseudo range, calculating a Doppler shift using the pseudo velocity (col. 3, line 59 to col. 5, line 50).

7. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Chenebault.

Chenebault discloses a satellite data collector for collecting satellite orbital information and pseudo range of more than three consecutive times from a plurality of satellites; a satellite velocity calculator for calculating velocity of satellites using the satellite orbital information; a pseudo velocity calculator for calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites; and a satellite acquisition information

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calculator for calculating a code phase using the pseudo range, calculating a Doppler shift using the pseudo velocity (col. 2, line 36 to col. 3, line 35).

8. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Landry.

Landry discloses a satellite data collector for collecting satellite orbital information and pseudo range of more than three consecutive times from a plurality of satellites; a satellite velocity calculator for calculating velocity of satellites using the satellite orbital information; a pseudo velocity calculator for calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites; and a satellite acquisition information calculator for calculating a code phase using the pseudo range, calculating a Doppler shift using the pseudo velocity (sections 1, 3.1, 4.1, and 5.1).

9. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lobert.

Lobert discloses a satellite data collector for collecting satellite orbital information and pseudo range of more than three consecutive times from a plurality of satellites; a satellite velocity calculator for calculating velocity of satellites using the satellite orbital information; a pseudo velocity calculator for calculating pseudo velocities between the MS and each satellite observed by the MS at a position measurement time of the MS using the velocity of satellites; and a satellite acquisition information calculator for calculating a code phase using the pseudo range, calculating a Doppler shift using the pseudo velocity (p. 2032, section "Addition of Doppler Measurements for Positioning").

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 703-305-1250. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-360-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull
Examiner
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fhm



THOMAS H. TARCZA
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